

REMARKS

Claims 1-26, 28 and 29 are pending. By this Response, claims 1, 10, 17 and 26 are amended. Reconsideration and allowance based on the above amendments and following remarks are respectfully requested.

The Office Action rejects claims 1-3, 5, 8-12, 14, 17-19, 21 and 24-26 under 35 U.S.C. §103(a) as being unpatentable over Merli, et al. (US 6,088,141) in view of Fee, et al. (US 5,914,794); claims 4, 6, 13, 15, 20, 22 and 28 under 35 U.S.C. §103(a) as being unpatentable over Merlie, Fee, and Tada, et al. (US 5,532,862); and claims 7, 16, 23 and 29 under 35 U.S.C. §103(a) as being unpatentable over Merlie, Fee and Cohen (US 4,736,359). These are rejections are respectfully traversed.

Applicants note that the independent claims have been amended to clarify the features of the amplifier node that distinguish them from the prior art. In embodiments of the present invention, the amplifier nodes act independently of a central network manager in obtaining fault data and performing restoration processes to correct for the network services disrupted by the faults.

The Office Action applies Merlie in combination with Fee to teach the claimed features recited in independent claims 1, 10, 17 and 26. Applicants respectfully submit that the combination of Merlie and Fee fail to teach each and every feature of the independent claims as currently amended.

Merlie teaches a system which must use a central network manager to obtain fault information from each node and provide this fault information other nodes. When a node detects a fault it transfers the data to the central manager. The central manager then relays this fault information to other nodes and also performs operations to correct for the network services

disrupted by the faults. See column 4, lines 34-53 and columns 6, lines 12-27 and column 7, lines 7-30. Thus, in Merli, the central network manager performs the operations of communicating fault information to various nodes and performing correction of the services disrupted by the faults.

Therefore, Merlie does not teach or suggest providing amplifier nodes with their own restoration element for detecting faults and forwarding the fault information to other nodes and restoring the disrupted services caused by the faults, as in embodiments of the present invention recited in independent claims 1, 10, 17 and 26.

The Office Action alleges that Fee teaches a system that provides amplifier nodes that detect and forward fault information directly to other nodes without intervention by a central network manager. The office Action alleges that this type of system if combined with Merli's system would provide applicants' claimed features. Applicants respectfully disagree.

Applicants respectfully submit that Fee teaches a system for detecting faults within the amplifier stations and forwarding this fault information to other nodes. As stated in Fee, Fee's system is a "detection and reporting system." See column 4, lines 56-57 and column 5, lines 30-31. Fee does not teach amplifier nodes that perform restoration functions to restore network services affected by the detected faults. Fee only teaches the detection and reporting of faults between nodes without the intervention of a network manager. Nowhere does Fee teach or suggest that these nodes perform restoration functions locally as in the present invention.

Thus, the combination of Merli and Fee fail to teach or suggest, *inter alia*, an amplifier node coupled between the first node and the second node, the amplifier node including a controller, restoration element and optical sensor, the controller configured to detect if a fault has occurred on an optical link connecting the amplifier node and the first node based on

measurements of a set of optical characteristics from the optical sensor and information received from said first node, control the restoration of network services disrupted by the detecting fault performed by the restoration element, and generate a fault report upon detection of the fault, as recited in independent claim 1;

detecting a loss of signal condition on an optical link carrying optical signals from the first node to the amplifier node, causing the amplifier node to generate a fault report reporting occurrences of the loss of signal condition, restoring network services disrupted by the occurrence of the loss of signal condition, as recited in claim 10;

the at least one amplifier node is configured to detect a fault on an incoming optical link carrying optical signals into the amplifier node, determining whether to perform a restoration of network services disrupted by the fault and performing the restoration if the determination to perform the restoration is made, as recited in claim 17; and

evaluate output from the signal power detector to determine if a loss of signal condition thereby indicating a fault on the incoming optical link, determine if the restoration of disrupted network services caused by the fault should be performed and performing the restoration if the determination to perform the restoration is made, as recited in claim 26.

Further, Tada and Cohen fail to make up for the deficiencies of Merli and Fee. Tada teaches an optical system in which nodes are connected in a ring formation. When a fault is found, a transmission line is switched to correct for the fault. This is done by a separate line switching system, not within the nodes themselves. Cohen teaches a single fiber optical communication system in which wavelength division multiplexing is employed to provide multiple communication links within the single fiber. Selection of the wavelengths is accomplished without the use of an operator. Cohen does not teach or suggest nodes

communicating with each other regarding fault information or restoring disrupted services caused by faults.

Therefore, in view of the above, applicants respectfully submit that claims 1, 10, 17 and 26 are distinguishable over the cited art. Dependent claims 2-9, 11-16, 18-25 and 28-29 are also distinguishable for the reasons above as well as for the additional features they recited. Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

Conclusion

For at least these reasons, it is respectfully submitted that claims 1-26, 28 and 29 are distinguishable over the cited art. Favorable consideration and prompt allowance are earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Chad J. Billings (Reg. No. 48,917) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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